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tree, has smooth leaves but prickly petioles. It occurs at about 1,500 feet elevation. Two of the species are endemic. *Hemitelia* has one species, described early in the last century, which is probably extinct, and two others very little known. A species of *Lophosoria* has a dense bloom on the under side of the leaves and is somewhat xerophytic in habit. It has merely a woody base.

Cnemidaria is distinguished by its habit and the cutting of its leaves. It has veins uniting near the midrib to form meshes.

Amphidesmium, from Trinidad and South America, differs from all other ferns in that the veins bear a second or even third sorus.

Most of the species discussed were illustrated by herbarium specimens and by portions of their trunks.

The second paper was by Dr. P. A. Rydberg, on 'The Flora of Northwest America.' A general discussion of the manuals available for the identification of the plants of different parts of the United States was given and a review of Mr. Howell's flora of the Columbia River region.

WILLIAM T. HORNE,
Secretary pro tem.

THE PSYCHOLOGICAL CLUB OF CORNELL UNIVERSITY.

THE session of 1904 has been devoted to the consideration of current theories of auditory sensation. The following papers have been read:

MR. H. C. STEVENS: 'The Helmholtz Theory.'

DR. J. W. BAIRD: 'The Facts of Auditory Sensation.'

MR. C. E. FERREE: 'The Physics of the Ear.'

MR. C. E. GALLOWAY: 'The Histology of the Ear.'

MR. C. E. GALLOWAY: 'The Physiology of the Ear.'

PROFESSOR E. B. TITCHENER: 'Rutherford's Theory and its Relation to the Helmholtz Theory.'

PROFESSOR I. M. BENTLEY: 'Ebbinghaus and Stumpf.'

MR. G. H. SABINE: 'Max Meyer.'

DR. T. DE LAGUNA: 'Ter Kuile's Theory.'

MISS A. JENKINS: 'Ayers's Theory.'

PROFESSOR TITCHENER: 'The Theories of Gray and Wundt.'

MISS E. MURRAY: 'Hermann and Ewald.'

MR. STEVENS: 'Objections to the Helmholtz Theory.'

PROFESSOR BENTLEY: 'Is Analysis Possible without Resonators?'

DISCUSSION AND CORRESPONDENCE.

KINDERGARTEN SCIENCE.

DR. THEODORE GILL's arraignment in SCIENCE (No. 488) of popular writers on natural history who indulge in 'baby talk,' by which is meant the practise of 'talking down' to an assumed inferior level of understanding, is a point exceedingly well taken. The use of a 'trot' to enable the young idea to canter smoothly along the road to learning, and thus avoid the toilsome march, is as much to be deprecated in natural science as in classics or other studies.

Dr. Gill's censure happens in this instance to be directed against over-popularizers of paleontology, whose administration of sugar-coated tabloids to juvenile readers is objected to on the ground, as he puts it, that 'science is scarcely food for babies.' But paleontological writers are not the only offenders in this direction. For the employment of kindergarten methods of illustration, even in serious articles, no science can compare with physiography. The recent literature of this subject has been suffering from a mania for interpreting topographic features in terms of vital phenomena, and for correlating, or attempting to correlate, physical changes (*cycle* is a misnomer) with stages of organic development. *Youth*, *maturity* and *old age* are terms constantly employed for indicating the successive expressions of unchanging forces in nature, for things as essentially different from life as the growth of the crystal is different from the growth of the individual.

It may be answered that an analogy is not implied by the use of these terms in a figurative sense, or if one is suggested, it is not harmful. Harmful it does become, however, when a false analogy is strained so far as to produce senseless or even ludicrous incongruities. Without exaggerating the prevailing style of metaphor, it may be said that a co-ordinate value is placed by physiographers upon the ridges and valleys of landscapes, and

the like-named structures in horses' teeth. They profess ability to examine a river's mouth and tell as shrewdly as any veterinarian whether the animated stream belongs to the colt stage, the four-year-old, or the decrepit old equine condition. To the discerning eye even pathologic conditions are revealed, for has not one writer described a stream with 'blind staggers'? Let any one cast a glance over the recent literature, if one suspects the simile overdone, and note, amongst other things, the surprising array of anthropomorphic conceptions of nature. Take even a master-craftsman like Professor Davis, originator, if I mistake not, of the terms 'pirate stream,' 'captured tributaries,' 'drowned valleys,' etc. (the hybrid 'peneplain' belongs to another story)—has he not said of Greece that it 'is a country standing up to its knees in the Mediterranean'? The fact may be literally true, but it is hardly decorous to specify anatomical particulars.

Another writer who believes in the virtue of parables characterizes a rapidly eroded land-surface as a 'precocious infant,' from which the lay reader may surmise that it has just graduated from kilts. But for delightfully refreshing imagery we must refer to a short article on 'The Aggrading Bar,' which appeared in these columns some little time ago (SCIENCE, V., p. 646), and begins as follows:

"The little wriggling bar staggering blindly along in a broad meandering valley is like a small boy attempting to fill his grandfather's boots. The waste supplied from the side of the hills of the adolescent valley, cut by the ancestor of the present stream, is much too great a load for a little brook."

Here the anthropomorphic suggestion is very skilfully rendered, in fact so realistically that the fate of this inebriate little brook, after taking on its load at the aggrading bar, might almost be said 'to point a moral or adorn a tale.' As class-room illustrations, or as intending to impart instruction by means of allegory, figurative descriptions of this nature may, perhaps, be tolerated, but it is gratuitous to suppose that the method of *Æsop* is better adapted to the needs of readers of SCIENCE than the method of *Zadig*. Sully

Prudhomme, in his essay 'On the Nature of Things,' makes some pointed remarks on the habit personifying inanimate nature, which it may be well for physiographers to take to heart.

Other illustrations of the kindergarten method might be given, but it is probably unnecessary to prove that the standard of most of our popular scientific magazines has become lowered through the habit of 'talking down' to average readers, instead of raised by talking just a little over their heads. Let it be asked as a general question which style of writing is the more helpful to students, that which assumes too much on their part, or too little? Does not there come a time in the education of youth when suggestion by means of nursery methods ceases to be a virtue? When a student reaches the point where he may be expected to dig for himself, let us put a spade into his hand, taking care, however, to call it a spade, and not a toy for making mud-pies.

C. R. EASTMAN.

HARVARD UNIVERSITY.

'VEGETABLE BALLS.'

REGARDING the subject of 'Vegetable Balls' the following additional information may be worthy of note. This curious formation is characteristic of the section *Ægagropila* of the genus *Cladophora* and is mentioned in Engler and Prantl's 'Die Naturlichen Pflanzenfamilien,' De Ionis 'Sylloge Algarum' and Hanck's 'Meeresalgen.' The most recent work on the subject seems to be that of C. Wesenberg on *Ægagropila Sauteri* (Overs. k. dansk. Vidensk. Selsk. Forh., II., 1903, pp. 168-203), of which there is a very good summary in *Jour. Roy. Micr. Soc.*, April, 1904. The alga occurs in Lake Sorö, Denmark, and the balls attain the size of the fist or of a child's head.

J. ADAMS.

ROYAL COLLEGE OF SCIENCE, DUBLIN,
June 29, 1904.

A NOTABLE PALEOBOTANICAL DISCOVERY.

TO THE EDITOR OF SCIENCE: Inasmuch as a note by the undersigned, entitled 'A Notable Paleobotanical Discovery,' in SCIENCE of July 8, was delayed in publication it is only just